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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,658	05/10/2001	Dirk M. Beyer	10013653-1	6515

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EXAMINER

HECK, MICHAEL C

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,658

Applicant(s)

BEYER ET AL.

Examiner

Michael C. Heck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a First Office Action in response to the application filed 10 May 2001. Claims 1-19 are pending in this application and have been examined on the merits as discussed below.

Specification

2. The disclosure is objected to because of the following informalities:
- On page 11, line 5, delete, "However, it appreciated", and insert -- However, it *is* appreciated --.

The above citation is a mere guide. Applicant is requested to review the specification thoroughly to eliminate additional errors. Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural

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phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For the process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, **claims 1, 7 and 13** only recites an abstract idea. As to **claim 1**, the recited steps of a) segmenting each customer in a plurality of customers into a segment in a plurality of segments for each promotion in a plurality of promotions, such that for a promotion there is a corresponding set of segments, wherein each segment in said set of segments represents a first respective group of customers having a certain response to said promotion; and b) separating said plurality of customers into a plurality of meta-segments, wherein each meta-segment in said plurality of meta-segments represents a second respective group of customers having a certain response to all promotions in said plurality of promotions does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The method only constitutes an idea for segmenting customers by promotion, therefore, is deemed to be directed to non-statutory subject matter. As to **claim 7**, the recited steps of a) receiving information for a customer describing said customer's response to each promotion in a plurality of promotions; b) segmenting said customer into a segment for said each promotion, wherein for each promotion there is a corresponding set of segments, wherein each segment in said set of segments represents a first respective group of customers having a certain response to said

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promotion; and c) placing said customer into a meta-segment in a plurality of meta-segments, wherein said meta-segment represents a second respective group of customers having a certain response to all promotions in said plurality of promotions does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The method only constitutes an idea for segmenting customers by promotion, therefore, is deemed to be directed to non-statutory subject matter. As to **claim 13**, the recited steps of a) recording information characterizing a response from each customer in a plurality of customers to each promotion in a plurality of promotions; and b) separating said plurality of customers into a plurality of meta-segments, wherein each meta-segment in said plurality of meta-segments represents a respective group of customers having a certain response to all promotions in said plurality of promotions does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The method only constitutes an idea for segmenting customers by promotion, therefore, is deemed to be directed to non-statutory subject matter.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implications of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In the present case, none of the recited steps are directed to anything in the technological arts as explained

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above. Looking at the claim as a whole, nothing in the body of the claim recites any structure or functionality to suggest that a computer performs the recited steps. Therefore, the preamble is taken to merely recite a field of use.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention produces customer segments (i.e., repeatable) for promotions (i.e., useful and tangible).

Looking at the claims as a whole, nothing in the body of the claims recite any structure or functionality to suggest that a computer performs a task. Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, the same rejection as stated above for claim 1, 7 and 13 applies to **claims 2-6, 8-12 and 14-19**.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Richards (Richards, A Discrete/Continuous Model of Fruit Promotion, Advertising, and Response Segmentation, Agribusiness, vol. 16, No. 2, p. 179-196, 2000 [GOOGLE]) in view of Cohen et al. (Cohen et al., Latent Segmentation Models; New Tool Assist

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Researchers in Market Segmentation, Marketing Research, Summer 1998 [EBSCO]).

The Examiner notes that Segmentation is interpreted to be the process of partitioning markets into groups of potential customers with similar needs and/or characteristics who are likely to exhibit similar purchase behavior. Cohen et al. disclose a global campaign optimization with promotion-specific customer segmentation comprising:

- **[Claim 1]** a) segmenting each customer in a plurality of customers into a segment in a plurality of segments for each promotion in a plurality of promotions, such that for a promotion there is a corresponding set of segments, wherein each segment in said set of segments represents a first respective group of customers having a certain response to said promotion (Para 5, 8, 15-16, and 18, Richards teaches by segmenting customers instead by their responsiveness to promotions, advertising, or to changes in price, and then describing a typical member of each segment by his or her demographic attributes, this study provides the type of information managers need to reach buyers of their products much more efficiently. The objective of this study is to determine the effect of price-promotion and media advertising on the discrete choice of a certain type of fruit. The study also seeks to define unique segments of consumers based on their responsiveness to these variables. At the choice-level this approach provides elasticities of category and variety choice with respect to advertising, product loyalty, and promotional deals. Many studies emphasize the importance of constructing market segments that group consumers with similar responses to marketing variables. This study segments fruit consumers in their choice and purchase quantity elasticities with respect to price, promotion, and advertising. In each case, the analysis begins by estimating the single segment purchase quantity model where the response elasticities vary by household. Because CMR (Competitive Media Reporting, Inc.) reports their findings on a monthly basis only, and the unit of observation here is an individual shopping trip, the amount of advertising exposure is assumed to be constant for all shopping trips taken within a particular month/market observation. With six monthly advertising observations per household and six different sample markets, the CMR data provides sufficient variation to estimate meaningful advertising response parameters. The Examiner interprets Richards to suggest segmenting each customer for each promotion to provide meaningful advertising response parameters.);
- b) separating said plurality of customers into a plurality of meta-segments, wherein each meta-segment in said plurality of meta-segments represents a second respective group of customers having a certain response to all

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promotions in said plurality of promotions (Para 28 and table 4, Richards teaches that because apple marketers want to link households of similar behavior to those of similar identifiable attributes, such as age, education, or income level, we segment on the basis of both response elasticities and a group of demographic variables. The Examiner interprets the response elasticities data is then segmented by demographic to determine households of similar behavior to those of similar identifiable attributes.)

Richards fails to explicitly teach that for a promotion there is a corresponding set of segments, however implicitly suggests six monthly advertising observations or segments. Cohen et al. teach that in Latent Segmentation Model regression, segments comprise people who have relatively similar regression coefficients. Instead of having one regression equation that describes the entire sample, a small number of equations for each latent segment, captures the predictor-outcome relationship. In conjoint analysis, segmentation typically proceeds in two stages. First, a prediction equation (often regression-based) is estimated for each respondent; utilities, for each level of each feature tested, are generated for each person. Second, these individual-level utilities are input into a cluster analysis program to derive benefit segments (Para 3 and 19). The Examiner interprets the a regression equation is determined for each segment, i.e. each monthly set of data observations, and then the regression equations are segmented to glean usable information. That is, a second segmentation process occurs on segmented data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include the Latent Segmentation Model of Cohen et al. with the teachings of Richards since Richards teaches a two-stage framework that is extended (Para 7-8). Market Segmentation gleans consumer choice categories to allow companies to better target the customers with their needs. Richards

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teaches his study wants of determine how promotion and advertising influences a consumer's decision regarding when to buy a particular product, and how much to buy on a given shopping occasion (Para2). Cohen et al. teach marketers seeking to understand their customers, to segment them, and to develop appropriate product-market strategies (Para 42). Therefore, market segmentation allows companies to be more focused in their approach to targeting customers. Both Richards and Cohen et al. are performing market segmentation, therefore, there is a suggestion to combine with a reasonable expectation of success since both are performing two-stage segmentation, and they suggest all the claim limitations.

- **[Claim 2]** specifying a number of meta-segments based on customer demographics, wherein said customer demographics define characteristics of said plurality of customers (Richards: Para 15-16, Richards teaches segmenting fruit consumers in their category choice and purchase quantity elasticities with respect to price, promotion, and advertising. Profiles describing each cluster are then found by calculating the mean of each demographic attribute, where the attributes include household income, number of household members, the age and education of the household-head, and the frequency with which the household buys some type of fruit over the sample period. The Examiner interprets Richards to specify the number of segments based on demographics.).
- **[Claim 3]** said number of meta-segments is specified such that the maximum number of customers are represented by said meta-segments (Richards: Para 16, Richards teaches using elasticities with respect to price, promotion, advertising, and loyalty as descriptors, the study used a k-means clustering algorithm to define segments of like consumers. Each subsequent observation is assigned to the cluster that is closest to, where the distance between an observation and the cluster center is defined in Euclidean terms. A more formal approach to testing the cluster models' appropriateness is to use an F-test of the hypothesis that the mean responses for all segments are equal.).
- **[Claim 4]** executing an algorithm for determining a number of customers in each meta-segment to receive a particular promotion (Richards: Para 16, Richards teaches using elasticities with respect to price, promotion,

advertising, and loyalty as descriptors, the study used a k-means clustering algorithm to define segments of like consumers. Each subsequent observation is assigned to the cluster that is closest to, where the distance between an observation and the cluster center is defined in Euclidean terms. A more formal approach to testing the cluster models' appropriateness is to use an F-test of the hypothesis that the mean responses for all segments are equal.).

- **[Claim 5]** said segmenting of said step a) is accomplished using a segmentation method selected from the group consisting of CART (Classification and Regression Tree), k-means, k-harmonic means and clustering (Richards: Para 16, Richards teaches using elasticities with respect to price, promotion, advertising, and loyalty as descriptors, the study used a k-means clustering algorithm to define segments of like consumers. Each subsequent observation is assigned to the cluster that is closest to, where the distance between an observation and the cluster center is defined in Euclidean terms. A more formal approach o testing the cluster models' appropriateness is to use an F-test of the hypothesis that the mean responses for all segments are equal.).
- **[Claim 6]** said step b) comprises the step of: associating with each customer a vector representing a combination of a segment and a promotion (Richards: Para 18, Richards teaches because CMR (Competitive Media Reporting, Inc.) reports their findings on a monthly basis only, and the unit of observation here is an individual shopping trip, the amount of advertising exposure is assumed to be constant for all shopping trips taken within a particular month/market observation. With six monthly advertising observations per household and six different sample markets, the CMR data provides sufficient variation to estimate meaningful advertising response parameters. The Examiner interprets Richards to suggest segmenting each customer for each promotion to provide meaningful advertising response parameters.).
- **[Claim 10]** determining a particular promotion to be provided to said customer (Richards: Para 33, Richards teaches the primary value of the type of information provided here, and the general analytical approach, is as a component of a category management, ECR (efficient consumer response), or similarly information-intensive marketing program.).

Claims 7-9 and 11-19 substantially recite the same limitations as that of claims 1-6 with the distinction of the recited method being another method. Hence the same rejection for claims 1-6 as applied above applies to claims 7-9 and 11-19.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Egol (Egol, Smart Targets (marketing technique), Direct, Vol. 12, No. 12, 15 September 2000 [DIALOG: file 16]) discloses a two-stage segmentation process where state one involves the process of defining and selecting from different target sectors and stage two focuses on the process of defining and selecting customer groups at different levels within a sector.
- Eldering (U.S. Patent 6,298,348) discloses a consumer profiling system where a demographic characterization vector is calculated.
- Anderson et al. (U.S. Patent 5,974,396) disclose a method and system for gathering and analyzing consumer purchasing information based on product and customer clustering relationships.

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Michael C. Heck whose telephone number is (571) 272-6730. The Examiner can normally be reached Monday thru Friday between the hours of 8:30am - 4:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq R. Hafiz can be reached on (571) 273-6729.

Any response to this action should be mailed to:

**Director of the United States Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450**

Or faxed to:

(703) 872-9306

[Official communications; including After Final communications labeled "**Box AF**"]

(571) 273-6730

[Informal/Draft communication, labeled "**PROPOSED**" or "**DRAFT**"]

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09 June 2005

Susanna Diaz
Susanna Diaz
Primary Examiner
AU3623